

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
ILLINOIS, South				
ALEXANDER COUNTY --- 0.9 SSW THEBES JCT [37.19, -89.46], 0.8 S THEBES JCT [37.19, -89.45], MC CLURE [37.32, -89.43], 2.8 N EAST CAPE GIRARDEAU [37.33, -89.48], 1.8 W EAST CAPE GIRARDEAU [37.29, -89.51]				
	07/01/15 00:00 CST		20K	Flood (due to Heavy Rain)
	07/28/15 17:30 CST		0.40M	Source: River/Stream Gage
Flooding on the Mississippi River continued from June into July and increased to major levels. At the Thebes river gage, the river crested at 42.02 feet on the 3rd. Flood stage is 33 feet. Extensive flooding of lowland fields occurred, including many acres of cropland. Residents of small communities such as Thebes and Gale were forced to evacuate or use boats to access their homes. Most roads leading to riverfront property were cut off by floodwaters. Some basements were flooded. Backwater flooding along tributary creeks affected many areas, including the inland community of McClure. Flooded streets in McClure impacted several families, who needed a boat to safely reach their homes.				
ALEXANDER COUNTY --- 2.4 SE CAIRO [36.98, -89.14], 2.6 ESE CAIRO [36.99, -89.14], 1.3 E CAIRO [37.00, -89.16], 1.0 ESE CAIRO [36.99, -89.16]				
	07/01/15 00:00 CST		5K	Flood (due to Heavy Rain)
	07/28/15 05:00 CST		30K	Source: River/Stream Gage
Moderate flooding occurred on the Ohio River. The flooding continued from June and increased to moderate intensity. At the Cairo river gage, the river crested at 48.71 feet on the 7th. Flood stage there is 40 feet. The flooding inundated mainly agricultural bottomland and surrounding low-lying areas. Parts of Fort Defiance State Park at the confluence of the Mississippi River were flooded.				
JACKSON COUNTY --- 1.7 NE GRIMSBY [37.77, -89.43], 1.2 ENE GRIMSBY [37.76, -89.43], 2.5 WNW MT CARBON [37.76, -89.37], 1.7 W MT CARBON [37.75, -89.36], 1.3 WNW MT CARBON [37.76, -89.35], 2.1 W MURPHYSBORO [37.77, -89.37], 3.3 W MURPHYSBORO [37.77, -89.39]				
	07/01/15 00:00 CST		2K	Flood (due to Heavy Rain)
	07/18/15 12:15 CST		5K	Source: River/Stream Gage
Moderate flooding continued along the Big Muddy River from June into much of July. At the Murphysboro river gage, the river crested in late June at 31.22 feet. Flood stage is 22 feet. There was considerable flooding of low-lying areas, including a riverside park and some fields. A few streets near the river were flooded. This was similar to the flood of June, 2013.				
JACKSON COUNTY --- GRAND TOWER [37.63, -89.50], 0.6 ENE GRAND TOWER [37.63, -89.49], 1.8 W JOHNS SPUR [37.67, -89.50], 2.5 W JOHNS SPUR [37.67, -89.52]				
	07/01/15 00:00 CST		2K	Flood (due to Heavy Rain)
	07/20/15 18:00 CST		25K	Source: Broadcast Media
Moderate flooding of the Mississippi River continued from June into mid-July. Parts of Devil's Backbone Park in Grand Tower were underwater.				
PULASKI COUNTY --- 2.8 S NEW GRAND CHAIN [37.21, -89.02], 0.7 ESE OLMSTED [37.18, -89.07], 0.1 SE OLMSTED [37.18, -89.08], 2.3 E LEVINGS [37.22, -89.03]				
	07/01/15 00:00 CST		0	Flood (due to Heavy Rain)
	07/27/15 10:00 CST		20K	Source: River/Stream Gage
Minor flooding continued along the Ohio River from late June through most of July. The flooding inundated mainly agricultural bottomland and surrounding low-lying areas.				
UNION COUNTY --- WARE [37.45, -89.40], 2.1 WSW WARE [37.44, -89.44], 2.8 W ALDRIDGE [37.55, -89.52], 0.8 W ALDRIDGE [37.55, -89.48]				
	07/01/15 00:00 CST		20K	Flood (due to Heavy Rain)
	07/21/15 15:00 CST		0.30M	Source: Broadcast Media
Moderate flooding continued on the Mississippi River from June through much of July. Extensive flooding of lowland fields occurred, including many acres of cropland. Most roads leading to riverfront property were cut off by floodwaters. Backwater flooding along tributary creeks such as Clear Creek affected some residents south and west of Jonesboro and Cobden. Several residents were forced to evacuate or use boats to access their homes.				
WABASH COUNTY --- MT CARMEL [38.42, -87.77], 1.4 SW PATTON [38.47, -87.77], 1.0 S PATTON [38.47, -87.75], 1.5 ESE MT CARMEL [38.41, -87.74]				
	07/01/15 00:00 CST		4K	Flood (due to Heavy Rain)
	07/29/15 16:00 CST		0.10M	Source: River/Stream Gage
Moderate flooding continued on the Wabash River from June through most of July. At the Mount Carmel river gage, the river crested at 25.8 feet in late June. Flood stage is 19 feet. Extensive lowland flooding occurred. Numerous local river roads were flooded. Some mobile homes were moved out of the flood plain. Installation of flood gate A at Mount Carmel was necessary. Access to local camp sites and river cabins was blocked, but there was minimal impact to commercial activities because of the gate closure. County Road 1280 E was flooded. Some nearby oil fields were inaccessible. A couple of streets in the city were flooded.				

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
WHITE COUNTY --- 1.7 ESE GARNERVILLE [38.11, -88.02], MAUNIE [38.03, -88.05], 1.0 E MAUNIE [38.03, -88.03], 4.7 ENE MAUNIE [38.07, -87.98], 2.9 ESE GARNERVILLE [38.11, -88.00]				
	07/01/15 00:00 CST		0	Flood (due to Heavy Rain)
	07/30/15 09:00 CST		50K	Source: River/Stream Gage
Minor flooding continued along the Wabash River from June through most of July. Some low-lying fields and woodlands were inundated.				
WHITE COUNTY --- CARMi [38.08, -88.17], 2.0 SE TRUMBULL [38.06, -88.20], 2.2 ESE BROWNSVILLE [38.01, -88.22], 3.3 N HERALD [38.02, -88.19], 1.9 SSE CARMi [38.05, -88.16]				
	07/01/15 00:00 CST		2K	Flood (due to Heavy Rain)
	07/16/15 13:45 CST		50K	Source: River/Stream Gage
Moderate flooding continued along the Little Wabash River from June into mid-July. At the Carmi river gage, the river crested at 34.52 feet in late June. Flood stage is 27 feet. Areas near Routes 1 and 14 in Carmi flooded. County roads were inundated.				
MASSAC COUNTY --- BROOKPORT [37.12, -88.63], 1.8 ESE METROPOLIS [37.14, -88.70], 2.3 E METROPOLIS [37.14, -88.69], 0.7 NW BROOKPORT [37.13, -88.64]				
	07/02/15 13:00 CST		0	Flood (due to Heavy Rain)
	07/24/15 07:00 CST		0	Source: River/Stream Gage
Minor flooding occurred along the Ohio River. The flooding affected mainly bottomland woods, including parts of Fort Massac State Park.				
GALLATIN COUNTY --- SHAWNEETOWN [37.70, -88.13], 2.2 SW SHAWNEETOWN [37.68, -88.16], 2.1 SSW SHAWNEETOWN [37.67, -88.15], 0.3 ESE SHAWNEETOWN [37.70, -88.13]				
	07/03/15 14:45 CST		0	Flood (due to Heavy Rain)
	07/24/15 11:45 CST		5K	Source: River/Stream Gage
Minor flooding occurred along the Ohio River. The flooding affected mainly bottomland fields and surrounding low lying areas . The boat ramp and parking lot at Old Shawneetown were under water.				
The active June weather pattern continued through July, bringing fronts that moved in and near the regional river basins. After having the wettest June on record, the state of Illinois experienced a very wet July. Flooding continued or started again on many rivers in the Mississippi, Wabash, and Ohio Valleys.				
GALLATIN COUNTY --- 2.0 S JUNCTION [37.69, -88.23]				
	07/07/15 08:45 CST		0	Heavy Rain
	07/07/15 16:00 CST		0	Source: Trained Spotter
A trained spotter measured 2.50 inches of rain in three hours during the morning hours. Low water crossings were flooded. Another one to two inches of rain fell later in the day, causing minor creek flooding.				
An early morning thunderstorm complex rapidly developed over the Lower Ohio Valley ahead of a weak mid-level shortwave trough. The complex evolved into a broad zone of convection along and south of a stationary front that extended from central Missouri through central Illinois. Three-hour rainfall amounts were from one to three inches, with isolated higher rates. The convection was focused along the nose of a low-level jet in a very moist air mass, with precipitable water values in the 2 to 2.25 inch range.				
ALEXANDER COUNTY --- 0.9 NW THEBES JCT [37.21, -89.46], 1.8 NE THEBES JCT [37.22, -89.43]				
	07/08/15 19:44 CST		6K	Tornado (EF1, L: 2.09 mi , W: 50 yd)
	07/08/15 19:47 CST		0	Source: NWS Storm Survey
The tornado crossed the Mississippi River from Scott County, Missouri. The tornado was in its weakening stage as it crossed the river. A path of tree damage was visible on the Illinois side of the river, ending just inside the Shawnee National Forest. No structural damage was reported. Peak winds were estimated to be around 95 mph on the Missouri side of the track.				
ALEXANDER COUNTY --- THEBES [37.22, -89.47]				
	07/08/15 19:50 CST		0	Hail (0.75 in)
	07/08/15 19:50 CST		0	Source: Broadcast Media
Isolated severe thunderstorms developed ahead of a migratory surface low over central Missouri. In the wake of early-day showers departing the Lower Ohio Valley, pockets of sunshine resulted in modest air mass destabilization. Boundary layer dew points in the 70's contributed to storm development. Notable strengthening of the 850 to 700 mb wind field was sufficient for isolated supercells, including a tornadic supercell that crossed the Mississippi River into Alexander County.				

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ALEXANDER COUNTY --- ELCO [37.30, -89.27], MC CLURE [37.32, -89.43], 1.3 NNE GALE [37.27, -89.44], 0.3 ESE TAMMS [37.23, -89.26], 2.5 SE ELCO [37.27, -89.24]				
	07/08/15 20:00 CST		0	Flash Flood (due to Heavy Rain)
	07/08/15 22:30 CST		0	Source: Law Enforcement
Flash flooding of back roads was reported in northern Alexander County, mainly in the Elco area.				
UNION COUNTY --- DONGOLA [37.37, -89.17], BALCOM [37.42, -89.20], 1.9 S MT PLEASANT [37.42, -89.07], 5.6 E DONGOLA [37.36, -89.07]				
	07/08/15 20:30 CST		5K	Flash Flood (due to Heavy Rain)
	07/08/15 23:00 CST		0	Source: Emergency Manager
Flash flooding of roads was reported in southeast Union County. A couple of cars were stranded. One car was stranded on U.S. Highway 51 in the Balcom area. Another car was stranded east of Dongola near the Johnson County line.				
PULASKI COUNTY --- ULLIN [37.27, -89.18], 0.9 S PERKS [37.29, -89.08], 1.8 N PERKS [37.33, -89.08], 0.5 NW WETAUG [37.33, -89.18], 1.6 WNW ULLIN [37.28, -89.21]				
	07/08/15 20:45 CST		0	Flash Flood (due to Heavy Rain)
	07/08/15 23:15 CST		0	Source: Law Enforcement
Flash flooding of some secondary roads occurred over the northern part of Pulaski County. Water was about three feet deep in a couple spots.				
HARDIN COUNTY --- ROSICLARE [37.42, -88.35], 2.4 WSW LAMB [37.52, -88.16]				
	07/08/15 22:45 CST		0	Heavy Rain
	07/09/15 00:05 CST		0	Source: Law Enforcement
Standing water was reported on a couple of roads, including Route 34. The water was less than six inches deep.				
MASSAC COUNTY --- 4.0 S NEW COLUMBIA [37.26, -88.78]				
	07/09/15 18:20 CST		40K	Lightning
	07/09/15 18:20 CST		0	Source: Trained Spotter
A lightning strike started a house fire that caused major damage.				
A large thunderstorm complex developed within the warm sector of a low pressure system that tracked northeast across the St. Louis area. A deep southwesterly flow of tropical moisture provided fuel for the storms. Precipitable water values were approaching two inches. Isolated flash flooding occurred with the strongest and most persistent storms.				
ALEXANDER COUNTY --- TAMMS [37.23, -89.27], 1.4 S UNITY [37.13, -89.27]				
	07/09/15 17:49 CST		3K	Thunderstorm Wind (EG 52 kt)
	07/09/15 17:55 CST		0	Source: Law Enforcement
Trees were blown down at Tamms and on Route 127 south of Tamms.				
HARDIN COUNTY --- CAVE IN ROCK [37.47, -88.17], ELIZABETHTOWN [37.45, -88.30]				
	07/09/15 18:15 CST		0	Heavy Rain
	07/09/15 20:25 CST		0	Source: Law Enforcement
A few roads were covered with a few inches of water.				
UNION COUNTY --- LICK CREEK [37.52, -89.07]				
	07/09/15 18:25 CST		2K	Thunderstorm Wind (EG 52 kt)
	07/09/15 18:25 CST		0	Source: Law Enforcement
A couple of trees were blown down.				
JACKSON COUNTY --- CARBONDALE [37.72, -89.22]				
	07/09/15 18:30 CST		20K	Thunderstorm Wind (EG 50 kt)
	07/09/15 18:30 CST		0	Source: Broadcast Media
A large tree fell through a house. The house was uninhabitable due to major structural damage.				
A cluster of strong to locally severe thunderstorms progressed eastward across the Mississippi River. The activity was focused along				

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a composite warm front/outflow boundary that extended eastward from southeast Missouri into southern Illinois. Sufficient solar heating and dew points in the mid 70's yielded moderate to strong instability. Modestly enhanced mid-level flow around 30 to 35 knots was sufficient for small-scale bow echoes and isolated wind damage.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC	07/13/15 12:00 CST		0	Heat
	07/13/15 17:00 CST		0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices around 105 degrees. Observed peak heat index readings at the bigger cities included 106 at Cairo, 107 at Carbondale, 108 at Marion, 109 at Metropolis and Harrisburg, and 110 at Mount Vernon. Area health departments opened cooling centers for those people needing a place to cool off. Hot southwest winds preceded a cold front that extended from the Upper Mississippi Valley to the central Plains.

(IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC	07/14/15 11:00 CST		0	Heat
	07/14/15 18:00 CST		0	

South of a line from Carbondale to Harrisburg, afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices from 105 to around 110 degrees. Peak heat indices at selected cities included 106 at Cairo and 112 at Metropolis. A cold front over southern Illinois was preceded by hot and humid southwest winds.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC	07/18/15 12:00 CST		0	Heat
	07/19/15 16:00 CST		0	

A two-day period of oppressive heat and humidity occurred in advance of a cold front. The cold front moved southeast from the central Plains on the 18th to central Missouri and Illinois on the 19th. Afternoon temperatures in the mid 90's, combined with oppressive humidity, produced heat index values in the 105 to 110 degree range both days in the far south. From Carbondale to Harrisburg northward, heat indices stayed below 105 on the 19th as the cold front brought cloudiness. Peak heat indices for this two-day event at selected cities included: 105 at Carbondale, Cairo, Harrisburg, and Fairfield, 107 at Marion, and 109 at Metropolis. The combination of heat and moisture was responsible for buckled pavement on a section of U.S. Highway 51 in Jackson County near DeSoto. Signs were put up to warn motorists.

UNION COUNTY --- WARE [37.45, -89.40]

07/20/15 00:05 CST	0	Heavy Rain
07/20/15 02:45 CST	0	Source: Trained Spotter

A storm total rainfall of 2.30 inches was measured. There was standing water in low areas.

A mesoscale convective system with heavy rainfall moved southeast along an old convective outflow boundary. The storms were aided by a weak 500 mb shortwave trough moving east from the central Plains.

(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC	07/27/15 12:00 CST		0	Excessive Heat
	07/29/15 17:00 CST		0	

Heat indices peaked around 110 degrees on three consecutive afternoons across much of southern Illinois. Places north of a line from Carbondale to Harrisburg peaked around 110 on only two afternoons, which were the 28th and 29th. The maximum observed heat indices at several cities over the three-day period included: 111 degrees at Carbondale, 113 at Marion, 115 at Metropolis, 114 at Cairo, 110 at Mount Vernon, and 111 at Fairfield. All of the preceding sites were airport sites. A 500 mb high over the southern Plains built slowly east and northeast into the Mid-Mississippi Valley. At the surface, weak high pressure over the Tennessee Valley produced a persistent southwest wind flow.

GALLATIN COUNTY --- 2.0 S JUNCTION [37.69, -88.23]

07/28/15 15:30 CST	0	Heavy Rain
07/28/15 17:30 CST	0	Source: Trained Spotter

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A trained spotter measured just over 1.5 inches of rain in one hour and 15 minutes. Water was over some country roads. Normally flood-prone areas were under water.				

A mesoscale convective system moved southwestward across southeast Illinois. The slow movement of the thunderstorm complex resulted in locally heavy rainfall. The storms developed in the heat of the afternoon along a weak surface boundary that extended from southeast Illinois into northwest Kentucky. The storms then propagated southwest into a very moist air mass with surface dew points in the upper 70's.

INDIANA, Southwest

GIBSON COUNTY --- EAST MT CARMEL [38.40, -87.73], 3.2 W CRAWLEYVILLE [38.28, -87.89], 2.3 SSW CRAWLEYVILLE [38.25, -87.85], 1.4 SE EAST MT CARMEL [38.39, -87.71]

07/01/15 00:00 CST	3K	Flood (due to Heavy Rain)
07/29/15 16:00 CST	0.25M	Source: River/Stream Gage

Moderate flooding continued along the Wabash River from June through most of July. At the Mount Carmel river gage, the river crested at 25.8 feet in late June. Flood stage is 19 feet. Extensive lowland flooding occurred, inundating hundreds of acres of cropland. Numerous local river roads were flooded. Some mobile homes were moved out of the flood plain. Access to local camp sites and river cabins was blocked, but there was minimal impact to commercial activities. Some nearby oil fields were inaccessible.

GIBSON COUNTY --- HAZLETON [38.48, -87.53], 2.0 ENE GIRO [38.51, -87.44], 1.8 NNE GIRO [38.52, -87.46], 0.9 N HAZLETON [38.49, -87.53]

07/01/15 00:00 CST	3K	Flood (due to Heavy Rain)
07/28/15 17:00 CST	0.30M	Source: River/Stream Gage

Minor flooding continued along the White River from June through most of July. Because it was agricultural season, extensive flooding of river bottomlands caused significant crop damage. High water surrounded any residents in river cabins. Several streets and back roads were flooded and impassable. Oil fields were flooded. Flood gates were installed at Hazleton. A softball field was underwater.

GIBSON COUNTY --- PATOKA [38.42, -87.58], 0.5 NE LYLE [38.38, -87.64], 2.1 SSE WHEELING [38.39, -87.44], 0.6 SSE WHEELING [38.41, -87.45]

07/01/15 00:00 CST	0	Flood (due to Heavy Rain)
07/04/15 19:00 CST	50K	Source: River/Stream Gage

Minor flooding continued along the Patoka River from June into early July. Low-lying fields and woodlands near the river were inundated.

PIKE COUNTY --- PETERSBURG [38.50, -87.28], 0.9 NNW PETERSBURG [38.51, -87.29], 5.0 NNW ALGIERS [38.55, -87.21], 1.7 NW IVY [38.52, -87.14], 2.3 NE IVY [38.52, -87.09], 2.3 E IVY [38.50, -87.08]

07/01/15 00:00 EST	2K	Flood (due to Heavy Rain)
07/27/15 10:00 EST	0.40M	Source: River/Stream Gage

Minor flooding continued along the White River from June through most of July. Low-lying woods and fields near the river were inundated. State Route 257 was flooded. Numerous Pike County roads were flooded, including County Roads 750N, 600N, and 1000E east of State Route 57. West of State Route 57, County Roads 250W, 400W, 675N, 700N, 1000W, 900W, 700W, and 775W were flooded. Low agricultural lands and low oil fields were inundated. Because it was agricultural season, significant crop damage occurred. River cabins were isolated by high water.

POSEY COUNTY --- 3.0 NNE SAVAH [38.06, -87.96], 3.6 NNE SAVAH [38.07, -87.95], 0.9 SW NEW HARMONY [38.12, -87.94], 1.0 WSW NEW HARMONY [38.12, -87.95]

07/01/15 00:00 CST	0	Flood (due to Heavy Rain)
07/30/15 09:00 CST	75K	Source: River/Stream Gage

Minor flooding continued along the Wabash River from June through most of July. Low-lying fields, woodlands, and some oil wells were flooded in the flood plain.

Rainfall totals in July reached historic levels again, only this time in central and southern Indiana. For the state, July 2015 was the 7th wettest July of record and the wettest since the record wet July of 1992. July's rainfall prolonged the widespread river flooding that began in June and caused higher flooding in southern Indiana. Flooding along the Wabash River in western Indiana that began in mid June continued through most of July.

WARRICK COUNTY --- TENNYSON [38.08, -87.12]

07/07/15 04:00 CST	0	Heavy Rain
07/07/15 09:20 CST	0	Source: Public

A rainfall amount of 3.10 inches was reported. This rain fell in about five hours.

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SPENCER COUNTY --- SANTA CLAUS [38.12, -86.90]

07/07/15 04:20 CST	0	Heavy Rain
07/07/15 09:20 CST	0	Source: Public

A rainfall amount of 2.25 inches was reported. Most of this rain fell within five hours.

VANDERBURGH COUNTY --- 1.0 SE EVANSVILLE [37.97, -87.54]

07/07/15 07:15 CST	0	Heavy Rain
07/07/15 15:15 CST	0	Source: Trained Spotter

The rainfall measured over a ten-hour period was 2.40 inches.

An early morning thunderstorm complex rapidly developed over the Lower Ohio Valley ahead of a weak mid-level shortwave trough. The complex evolved into a broad zone of convection along and south of a stationary front that extended from central Missouri through central Illinois. Three-hour rainfall amounts were from one to two inches. The convection was focused along the nose of a low-level jet in a very moist air mass, with precipitable water values in the 2 to 2.25 inch range. Unidirectional wind flow from the surface to 500 mb resulted in little net movement of the convection. Although the best instability resided further south in the warm/moist sector, there was enough buoyancy in place to maintain convection. The front settled southward across western Kentucky by late afternoon, providing a focus for renewed convective complexes.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

07/13/15 12:00 CST	0	Heat
07/13/15 17:00 CST	0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices around 105 degrees. The observed peak heat index reading at Evansville was 105. A homeless shelter in Evansville expanded its operations for the duration of the heat wave. Hot southwest winds preceded a cold front that extended from the Upper Mississippi Valley to the central Plains.

(IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

07/14/15 09:00 CST	0	Heat
07/14/15 16:00 CST	0	

From the city of Evansville east along the Ohio River, afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices near 105 degrees. The peak heat index was 105 at Evansville. A cold front over southwest Indiana was preceded by hot and humid southwest winds.

WARRICK COUNTY --- 0.8 SSE NEWBURGH [37.94, -87.41], 3.1 ESE NEWBURGH [37.93, -87.37], 2.8 ESE NEWBURGH [37.93, -87.37], 1.3 ESE NEWBURGH [37.94, -87.40]

07/15/15 15:00 CST	0	Flood (due to Heavy Rain)
07/21/15 18:00 CST	0	Source: River/Stream Gage

Minor flooding occurred along the Ohio River. Low-lying fields and woodlands near the river were underwater.

POSEY COUNTY --- MT VERNON [37.93, -87.90], 0.8 SW HOVEY [37.89, -87.94], 0.4 S HOVEY [37.89, -87.93], 0.3 S MT VERNON [37.93, -87.90]

07/15/15 21:00 CST	0	Flood (due to Heavy Rain)
07/22/15 14:00 CST	10K	Source: River/Stream Gage

Minor flooding occurred along the Ohio River. Farm land and some main roads were flooded in places southwest and west of Mt. Vernon.

The active June weather pattern continued through July, bringing fronts that moved across the region's river basins. The rainfall was sufficient to raise sections of the lower Ohio River slightly above flood stage.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

07/18/15 11:00 CST	0	Heat
07/18/15 16:00 CST	0	

Oppressive heat and humidity occurred in advance of a cold front over the central Plains. Afternoon temperatures in the mid 90's, combined with oppressive humidity, produced heat index values from 105 to 110 degrees. The peak heat index at the Evansville airport was 106 degrees.

(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/28/15 12:00 CST		0	Excessive Heat
	07/29/15 17:00 CST	6	0	

Heat indices peaked around 110 degrees on two consecutive afternoons. The maximum observed heat index at the Evansville airport was 110 degrees on the 29th. Emergency room doctors at a local hospital reported a sharp increase in heat-related illnesses, such as heat cramps and heat strokes. However, no exact numbers were available. The heat caused some interruptions of outdoor projects. Roofing repairs at the Warrick County courthouse were delayed. A 500 mb high over the southern Plains built slowly east and northeast into the Mid-Mississippi Valley. At the surface, weak high pressure over the Tennessee Valley produced a persistent southwest wind flow.

KENTUCKY, Southwest

TRIGG COUNTY --- CERULEAN [36.97, -87.72]

07/02/15 00:00 CST	0	Heavy Rain
07/02/15 23:00 CST	0	Source: Emergency Manager

Nearly six inches of rain was measured for the calendar day. The rain occurred mostly in two thunderstorm complexes, one during the pre-dawn hours and another late in the evening. There was standing water in numerous fields. Water went over several roads.

CALLOWAY COUNTY --- 3.7 NNW NEW PROVIDENCE [36.58, -88.26]

07/02/15 15:45 CST	0	Heavy Rain
07/02/15 18:30 CST	0	Source: Law Enforcement

Water was over Highway 121 between mile markers 3 and 4, southeast of Murray. High water signs were posted, but the road was not closed.

CHRISTIAN COUNTY --- KELLY [36.97, -87.47], GRACEY [36.87, -87.65]

07/02/15 17:15 CST	0	Heavy Rain
07/02/15 22:55 CST	0	Source: Public

Heavy rains from an evening thunderstorm resulted in flooding of low-lying areas in Kelly. The ground was already saturated from a thunderstorm complex during the early morning hours. The Kentucky mesonet site located six miles north of Hopkinsville measured 4.05 inches for the calendar day. A trained spotter in Gracey measured 4.32 inches for the day.

A cold front stalled just south and east of the Ohio River during the evening hours. A weak low pressure center moved northeast along the front, enhancing the coverage and intensity of thunderstorms.

MCCRACKEN COUNTY --- 1.8 WNW HEATH [37.09, -88.83], 0.5 WNW HEATH [37.08, -88.81]

07/02/15 01:05 CST	4K	Thunderstorm Wind (EG 52 kt)
07/02/15 01:05 CST	0	Source: NWS Employee

Three trees were blown down across roads. Highway 725 was blocked by two trees, each 8 to 12 inches in diameter. Highway 726 was partially blocked by another tree.

A mesoscale convective system tracked east across the area. The thunderstorm complex occurred along a warm front that extended eastward across the Lower Ohio Valley from low pressure over the Plains states.

CHRISTIAN COUNTY --- 3.4 WNW POD [37.09, -87.59], 0.8 S WYNNS [37.09, -87.38], 1.7 SW FEARSVILLE [36.96, -87.37], 0.8 WNW ERA [37.02, -87.59]

07/03/15 15:45 CST	0	Flash Flood (due to Heavy Rain)
07/03/15 16:55 CST	0	Source: Trained Spotter

U.S. Highway 41 was impassable near Crofton due to flash flooding. Six inches of water was flowing over Highway 800 near Crofton and Highway 107 southeast of Crofton. Radar estimated up to three inches of rain fell in three hours.

DAVISS COUNTY --- MOSELEYVILLE [37.67, -87.20], MASONVILLE [37.67, -87.03], 1.8 SE RED HILL [37.60, -87.03], 2.5 SSE UTICA [37.59, -87.10], 2.2 SE PANTHER [37.61, -87.20]

07/03/15 18:30 CST	1	20K	Flash Flood (due to Heavy Rain)
07/03/15 21:30 CST	0		Source: Trained Spotter

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
A series of thunderstorms produced rainfall rates estimated by radar up to three inches in two hours . A car was swept off Highway 140 West by rapidly flowing floodwater. The vehicle was found about two hours later, submerged in a deep ditch with rapidly flowing water. The driver was pronounced dead at the scene. Just prior to the fatality, the fire department had assisted another vehicle stranded in floodwaters in the same vicinity. In other parts of Daviess County, sections of U.S. Highway 431 and Kentucky Highway 81 were closed due to high water.				
Direct Fatalities: F57VE				
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MUHLENBERG COUNTY --- PARADISE [37.27, -86.98], 1.9 ESE MARTWICK [37.32, -86.99], 1.5 ESE MARTWICK [37.32, -86.99], 0.3 W PARADISE [37.27, -86.99]				
	07/04/15 23:30 CST		0	Flood (due to Heavy Rain)
	07/06/15 03:00 CST		50K	Source: River/Stream Gage
Minor flooding occurred along the Green River. Bottomland fields were underwater.				
Numerous thunderstorms occurred along a very slow-moving cold front that extended from northwest Arkansas to the Lower Ohio Valley. The storms produced excessive rainfall and isolated flash flooding, as well as minor river flooding. The storms were aided by a weak 700 mb trough that moved southeast across southwest Indiana and southern Illinois. Cell motions were very slow and erratic, along with some cell mergers and backbuilding cells. The air mass was characterized by tropical humidity, with precipitable water values around 1.8 inches. The deep-layer wind flow was roughly parallel to the surface frontal boundary, allowing training of cells over the same areas. Pockets of sunshine and strong heating destabilized the atmosphere, further supporting convective development.				
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WEBSTER COUNTY --- 4.0 SSE SEBREE [37.55, -87.50], 5.0 SSE SEBREE [37.53, -87.50]				
	07/05/15 14:26 CST		0	Tornado (EF0, L: 1.00 mi , W: 30 yd)
	07/05/15 14:29 CST		0	Source: Trained Spotter
A slow-moving funnel cloud was observed for about five minutes over open country. A trained spotter reported the funnel touched down as a tornado for a few minutes and stirred up some debris. No damage site was located by the spotter or reported by other sources. This tornado was associated with an isolated light rain shower. This type of tornado is commonly called a landspout. Landspouts occur when extremely buoyant air is lifted and rotates near the base of a rain shower of thunderstorm. Most landspouts do little damage.				
An isolated rain shower produced a landspout over northwest Kentucky near Sebree. The rain shower was associated with a weak stationary front that extended eastward from the central Plains across the Lower Ohio Valley to the central Appalachians.				

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
				

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
				

Photo of the funnel cloud associated with a landspout tornado several miles southeast of Sebree, Kentucky. Photo courtesy of Isaac Henson.

CRITTENDEN COUNTY --- 6.0 NNE MARION [37.41, -88.04]

07/07/15 04:00 CST	0	Heavy Rain
07/07/15 06:30 CST	0	Source: Fire Department/Rescue

Creeks and streams rose past bankfull.

MCCRACKEN COUNTY --- MELBER [36.95, -88.73], REIDLAND [37.02, -88.53], 2.1 ESE ROWLANDTOWN [37.09, -88.59], 3.7 NE GRAHAMVILLE [37.14, -88.74]

07/07/15 04:50 CST	1.20M	Flash Flood (due to Heavy Rain)
07/07/15 08:00 CST	0	Source: NWS Storm Survey

Major flash flooding occurred as a result of persistent thunderstorms that dumped up to 5.5 inches of rain in four hours. The heaviest rainfall amounts occurred over the city of Paducah, where serious flooding of streets and low-lying areas took place. A state of emergency was declared by the city and county government leaders. Floodwaters affected about 133 private residences and 29 businesses. Among the flooded buildings were three apartment complexes, the sheriff's department, an ambulance building, and the county jail. The vast majority of the flooded buildings remained habitable, but nearly a dozen were uninhabitable until minor repairs could be made. Water overwhelmed several neighborhoods, and the county emergency management agency used boats to check on residents. The Red Cross opened a shelter for those displaced residents. Numerous vehicles were stranded on flooded streets and parking lots. The Paducah Police Department responded to 15 water-related incidents or rescues in four hours. The county sheriff's department handled numerous other incidents outside the Paducah city limits. Since the flash flooding occurred during the early morning commute, there was a high impact on traffic. Flash flooding of Perkins Creek inundated access roads and parking lots of hotels and restaurants near exit 4 along Interstate 24. A hotel was evacuated as water rose out of the parking lot into the first floor. The flooding affected underground power lines, knocking out traffic signals at the congested exit 4 interchange. About 1,000 customers experienced power outages in the area near exit 4. Numerous basements throughout Paducah were flooded. The rainfall total at a rain gage in downtown Paducah along the Ohio River was 5.44 inches, which fell within a period of four hours. At the NWS office at Barkley Regional Airport, the total was 2.9 inches.

TRIGG COUNTY --- CERULEAN [36.97, -87.72]

07/07/15 16:40 CST	0	Heavy Rain
07/07/15 18:25 CST	0	Source: Trained Spotter

Some water covered several roads. A rainfall amount of 2.5 inches was measured in one hour and 45 minutes.

An early morning thunderstorm complex rapidly developed over the Lower Ohio Valley ahead of a weak mid-level shortwave trough. The complex evolved into a broad zone of convection along and south of a stationary front that extended from central Missouri through central Illinois. Three-hour rainfall amounts were from one to three inches, with isolated higher rates. The convection was focused along the nose of a low-level jet in a very moist air mass, with precipitable water values in the 2 to 2.25 inch range. Unidirectional wind flow from the surface to 500 mb resulted in little net movement of the convection. Although the best instability resided further south in the warm/moist sector, there was enough buoyancy in place to maintain convection. The front settled southward across western Kentucky by late afternoon, providing a focus for renewed convective complexes.

MCCRACKEN COUNTY --- 2.3 SW CAMMELIA [37.00, -88.81], 0.7 W TYLER [37.05, -88.59], 1.2 E ROWLANDTOWN [37.10, -88.61], 2.6 N MAXON [37.12, -88.73], 0.3 SW LAMONT [37.05, -88.82]

07/09/15 01:34 CST	0	Flash Flood (due to Heavy Rain)
07/09/15 04:00 CST	0	Source: Trained Spotter

Water was over several main roads. Water was over Kentucky Highway 305 at Massac Creek. The intersection of U.S. Highway 62 and Highway 286 was under water. Water was also over a stretch of U.S. 45 in the city of Paducah. At the rain gage on the Ohio River in Paducah, 1.93 inches fell in the overnight storms. This rain brought the three-day total to 8.22 inches.

A large thunderstorm complex developed within the warm sector of a low pressure system that tracked northeast across the St. Louis area. A deep southwesterly flow of tropical moisture provided fuel for the storms. Precipitable water values were approaching two inches. Isolated flash flooding occurred with the strongest and most persistent storms.

DAVIESS COUNTY --- PHILPOT [37.73, -86.98], 2.9 WSW BOSTON [37.66, -86.97]

07/10/15 07:30 CST	5K	Thunderstorm Wind (EG 56 kt)
07/10/15 07:35 CST	0	Source: Emergency Manager

Along Highway 762 east of Masonville, two trees were blown down on a home, and one tree landed on a garage. In Philpot, metal roofing was peeled off a large metal shed. Large tree limbs were blown down nearby.

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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A cluster of thunderstorms moved eastward along a stationary front that extended from central Missouri across the Lower Ohio Valley. The leading edge of the strongest storm cluster contained isolated damaging winds.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD	07/13/15 12:00 CST	0	Heat
	07/13/15 17:00 CST	0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices around 105 degrees. Observed peak heat index readings at the bigger cities included 103 at Paducah, 105 at Murray, Mayfield, Henderson, and Fort Campbell, 106 at Princeton and Madisonville, and 109 at Owensboro. Some outdoor activities were rescheduled. For example, the Owensboro school system rescheduled football practice for the cooler early morning hours. Hot southwest winds preceded a cold front that extended from the Upper Mississippi Valley to the central Plains.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD	07/14/15 10:00 CST	0	Heat
	07/14/15 17:00 CST	0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices from 105 to 113 degrees. Peak heat indices at selected cities included 107 at Marion, 108 at Henderson, Owensboro, and Madisonville, 109 at Paducah, 111 at Murray and Mayfield, 112 at Fort Campbell, and 113 at Princeton. In Fulton County, a police dog died of heat exhaustion. The dog did not overheat in a vehicle, but no other details were released. A cold front over southern Illinois and southwest Indiana was preceded by hot and humid southwest winds.

UNION COUNTY --- UNIONTOWN [37.77, -87.93], 0.9 W UNIONTOWN [37.77, -87.95], 1.9 W UNIONTOWN [37.77, -87.97], 1.7 W UNIONTOWN [37.77, -87.96]	07/15/15 21:45 CST	0	Flood (due to Heavy Rain)
	07/23/15 13:00 CST	20K	Source: River/Stream Gage

Minor flooding occurred along the Ohio River. The flooding affected mainly bottomland fields and surrounding low lying areas. The road to several farms above Uniontown flooded.

The active June weather pattern continued through July, bringing fronts that moved in and near the regional river basins. Minor flooding occurred on parts of the Ohio River.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD	07/18/15 11:00 CST	0	Heat
	07/19/15 17:00 CST	0	

A two-day period of oppressive heat and humidity occurred in advance of a cold front. The cold front moved southeast from the central Plains on the 18th to central Missouri and Illinois on the 19th. Afternoon temperatures in the mid 90's, combined with oppressive humidity, produced heat index values in the 105 to 113 degree range both days in most areas except the far south. South of a line from Paducah to Madisonville, heat indices stayed below 105 on the 18th. Peak heat indices for this two-day event at selected cities included: 105 at Mayfield and Fort Campbell, 107 at Paducah, 108 at Murray, 109 at Madisonville, 110 at Owensboro and Henderson, and 113 at Princeton.

CALDWELL COUNTY --- FREDONIA [37.20, -88.07]	07/20/15 20:31 CST	2K	Thunderstorm Wind (EG 61 kt)
	07/20/15 20:31 CST	0	Source: NWS Storm Survey

Large branches were broken.

CALDWELL COUNTY --- 7.0 NW PRINCETON [37.19, -87.96], 2.5 E PRINCETON [37.12, -87.82]	07/20/15 20:37 CST	50K	Thunderstorm Wind (EG 70 kt)
	07/20/15 20:55 CST	0	Source: NWS Storm Survey

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
A microburst with peak winds estimated near 80 mph raked parts of Caldwell County. Dozens of tree limbs and at least a dozen trees were blown down. Power lines were downed by a fallen tree. The roof of a farm shed was blown off. Two windows were blown out of a storefront in downtown Princeton. Several small signs were blown down. The path of the microburst began along Highway 91 northwest of Princeton. The path extended southeastward across the city of Princeton, reaching a maximum width of 4000 yards. The path length was just over 9 miles.				

MUHLENBERG COUNTY --- GREENVILLE [37.20, -87.18]

07/20/15 21:45 CST	15K	Thunderstorm Wind (EG 56 kt)
07/20/15 21:45 CST	0	Source: Emergency Manager

Trees and power lines were blown down, resulting in spotty power outages.

Clusters of thunderstorms with torrential rain and isolated damaging winds moved east-southeast across western Kentucky. The storms were focused along a stationary outflow boundary extending from southern Missouri into the Tennessee Valley. The storms were enhanced by an upper-level disturbance that tracked east-southeast from the St. Louis area to southwest Indiana. Precipitable water values were around two inches. Heating of the very moist air mass resulted in strong instability, with mixed-layer capes over 2500 j/kg in the afternoon.

GRAVES COUNTY --- MAYFIELD [36.73, -88.63]

07/26/15 10:10 CST	15K	Thunderstorm Wind (EG 56 kt)
07/26/15 10:10 CST	0	Source: Newspaper

Numerous large tree limbs and a few trees were blown down. Some power lines were brought down by falling trees. The damage was confined to a small residential area on the east side of Mayfield.

A line of thunderstorms moved southeast across the Purchase area of western Kentucky, producing isolated wind damage in Mayfield. The storms were associated with a 500 mb shortwave trough moving east-southeast into the Mid-Mississippi Valley. The storms occurred south of a warm front draped across central Indiana and Illinois.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD

07/27/15 12:00 CST	0	Excessive Heat
07/29/15 17:00 CST	0	

Afternoon heat indices peaked from around 105 to 115 degrees on three consecutive days. On the 27th, heat indices topped out around 105. The peak heat index on the following two days was around 110. The maximum observed heat indices at several cities over the three-day period included: 113 degrees at Paducah, 114 at Owensboro and Henderson, 117 at the Princeton mesonet site, 111 at Murray, 110 at Madisonville, and 108 at Fort Campbell. All of the preceding sites were airport sites except Princeton. A 500 mb high over the southern Plains built slowly east and northeast into the Mid-Mississippi Valley. At the surface, weak high pressure over the Tennessee Valley produced a persistent southwest wind flow.

UNION COUNTY --- 8.5 WNW MORGANFIELD [37.73, -88.06], 4.8 NW MORGANFIELD [37.73, -87.98]

07/27/15 16:30 CST	50K	Thunderstorm Wind (EG 83 kt)
07/27/15 16:39 CST	20K	Source: NWS Storm Survey

A microburst caused extensive damage in northwest Union County. Dozens of large trees were uprooted, and numerous limbs were down. The roof of a home was damaged. A garage door was pushed in. A separate small garage was blown partially over. Dozens of acres of corn were blown over. The damage path was about 3.75 miles long. The maximum width of the damage path was 1.25 miles. Much of the damage was concentrated along Highways 871 and 946. The damage started along the Ohio River and ended along Kentucky Highway 360. Peak winds were estimated near 95 mph.

Scattered thunderstorms developed during the heat of the day along a stationary front that extended from southern Missouri east-northeast along the Lower Ohio Valley. The lower levels were very moist, with surface dew points in the middle to upper 70's. A very damaging wet microburst occurred with the strongest storm.

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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Photo of a small garage that was partially blown over by a microburst northwest of Morganfield. Photo provided by Rick Shanklin, NWS Paducah.

HOPKINS COUNTY --- 0.7 NE MADISONVILLE [37.34, -87.49], 1.2 S MADISONVILLE [37.31, -87.50]

07/28/15 16:15 CST	0	Heavy Rain
07/28/15 18:00 CST	0	Source: Law Enforcement

Street flooding was reported in the city of Madisonville. A side street was impassable where it passed through a railroad tunnel. There were lane closures on U.S. Highway 41 on the south end of the city. Manhole covers were blown off on the east side of the city. A citizen on the northwest side of Madisonville measured a 12-hour rainfall of 3.41 inches.

LYON COUNTY --- LAMASCO [36.98, -87.92], 1.6 ESE LAMASCO [36.97, -87.89]

07/28/15 17:45 CST	0	Heavy Rain
07/28/15 18:45 CST	0	Source: Law Enforcement

Water was reported over Interstate 24 at mile marker 54, resulting in a vehicle accident.

LIVINGSTON COUNTY --- 0.4 NE GRAND RIVERS [37.00, -88.23]

07/28/15 18:10 CST	2K	Thunderstorm Wind (EG 52 kt)
07/28/15 18:10 CST	0	Source: Trained Spotter

Large tree limbs from four to six inches in diameter were broken at Green Turtle Bay, on the west side of Lake Barkley.

CALDWELL COUNTY --- 0.8 SSW BLACK HAWK [36.96, -87.88], 1.3 SSE BLACK HAWK [36.95, -87.86], 0.5 SE HOPSON [36.97, -87.82], 2.3 N BLACK HAWK [37.00, -87.86]

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/28/15 18:20 CST	1	80K	Flash Flood (due to Heavy Rain)
	07/28/15 21:30 CST		0	Source: Emergency Manager

Torrential rain caused flash flooding of a creek along the Caldwell/Trigg County border known as Long Pond Branch. Kentucky Highway 276 was washed out where the creek crosses the highway through a culvert. The washout was estimated to be about 20 feet deep and 60 feet wide where it crosses the highway. One vehicle entered the flooded creek and was swept approximately 300 yards downstream into Trigg County. The body of a 61-year-old woman was found inside the submerged and overturned vehicle. The incident was witnessed by a utility crew working on a power outage in the area. The crew watched as the road was washed out from under the car. Farmers in the local area measured about four inches of rain in two hours.

Direct Fatalities: F61VE

TRIGG COUNTY --- 5.6 W WALLONIA [36.96, -87.87], 4.8 W WALLONIA [36.95, -87.86], 4.1 WSW WALLONIA [36.93, -87.84], 3.5 NNW CADIZ [36.91, -87.85], 4.0 NNE TRIGG FURNACE [36.93, -87.89]

07/28/15 18:20 CST	0	Flash Flood (due to Heavy Rain)
07/28/15 21:30 CST	0	Source: Emergency Manager

Flash flooding of a creek known as Long Pond Branch was responsible for a vehicle fatality just across the Caldwell County line on Highway 276. The road was washed out beneath the vehicle. The vehicle was then carried over 300 yards into Trigg County by the rushing floodwaters. The driver's body was recovered from the submerged, overturned vehicle after the water began to recede. Farmers in the local area reported about four inches of rain in two hours.

CALLOWAY COUNTY --- POTTERTOWN [36.62, -88.18]

07/28/15 19:00 CST	3K	Thunderstorm Wind (EG 56 kt)
07/28/15 19:00 CST	0	Source: Law Enforcement

A few trees were blown down, blocking Highway 280 between Highways 94 East and 121 South.

A mesoscale convective system moved southwestward across western Kentucky. The slow movement of the thunderstorm complex resulted in isolated flash flooding. The storms developed in the heat of the afternoon along a weak surface boundary that extended from southeast Illinois into northwest Kentucky. The storms then propagated southwest into a very moist air mass with surface dew points in the upper 70's. Strong gusty winds along the leading edge of this thunderstorm complex produced isolated tree damage in the Lakes region of west Kentucky.

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
				

Photo of the washed out section of Kentucky Highway 276 where a vehicle was swept into the floodwaters of Long Pond Branch. The driver of the vehicle was killed. Photo courtesy of WKDZ radio.

MUHLENBERG COUNTY --- GREENVILLE [37.20, -87.18]				
	07/29/15 16:58 CST		3K	Thunderstorm Wind (EG 52 kt)
	07/29/15 16:58 CST		0	Source: Broadcast Media

Trees were reported down.

A broken line of thunderstorms accompanied a cold front as it moved southeast across western Kentucky. An isolated storm produced marginally severe wind gusts.

MISSOURI, Southeast

CAPE GIRARDEAU COUNTY --- 1.5 ENE GULF JCT [37.28, -89.52], 5.3 ESE GULF JCT [37.24, -89.46], 1.4 E SHARPSBORO [37.22, -89.69], 0.8 NNE MARQUETTE [37.28, -89.56], 1.1 SSE EGYPT MILLS [37.39, -89.46], 2.5 SE BAINBRIDGE [37.39, -89.42]				
	07/01/15 00:00 CST		50K	Flood (due to Heavy Rain)
	07/31/15 23:59 CST		5M	Source: River/Stream Gage

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Major flooding continued along the Mississippi River. At the Cape Girardeau river gage, the river crested at 43.08 feet on the night of the 2nd. Flood stage is 32 feet. About 18,000 acres were flooded, which included 11,000 acres of cropland. Crop losses were estimated in the millions of dollars. Three floodgates were closed in the Cape Girardeau floodwall. The combination of the floodwall and pumping stations prevents downtown Cape Girardeau from flooding during major floods. Highway 177 was closed at the northern city limits of Cape Girardeau. About a dozen county roads were closed and impassable, including County Roads 525 and 535. Facilities at riverfront parks were closed, including the campground and boat ramp at Trail of Tears State Park. Railroad tracks through the county were shut down. Near and east of Dutchtown, Highway 74 was covered with six inches of backwater from flooding of the Mississippi River diversion channel. Most residents of Dutchtown have accepted a government buyout of their property, leaving only a few permanent residents behind. Across the county, flood risk reduction measures that were installed after the massive flood of 2011 helped mitigate damage. Personnel from the U.S. Army Corps of Engineers were assessing the effectiveness of these measures, which included trenches and relief wells. The Corps of Engineers conducted daily inspections of levees for seepage and other problems. The flooding continued into August.				

PERRY COUNTY --- WITTENBURG [37.65, -89.53], 1.3 NNW RED ROCK [37.77, -89.69], 1.1 NE RED ROCK [37.76, -89.67], 1.3 ESE STARLAND [37.69, -89.56]

07/01/15 00:00 CST	10K	Flood (due to Heavy Rain)
07/20/15 21:00 CST	0	Source: Broadcast Media

Major flooding continued along the Mississippi River from June into mid-July. Residents of the small community of Wittenburg along the river were forced to evacuate or use boats to reach their property. Most houses along the river have been abandoned after being repeatedly flooded over the years. Railroad tracks near Wittenburg were undermined by heavy rains draining into the river.

SCOTT COUNTY --- COMMERCE [37.15, -89.45], 1.2 ESE ILLMO [37.21, -89.48], 2.2 ENE ILLMO [37.23, -89.46], 0.8 ENE COMMERCE [37.15, -89.44]

07/01/15 00:00 CST	20K	Flood (due to Heavy Rain)
07/20/15 17:00 CST	2M	Source: Broadcast Media

Major flooding of the Mississippi River continued from June through mid-July. Three homes on Scott County Road 308 alongside the Mississippi River were underwater, with up to a foot of water covering the first floor. Thousands of acres of cropland were flooded. The primary effect on residents near the river was difficult access due to flooded roads. Access to the small community of Commerce was affected. Flood risk reduction measures that were installed after the massive flood of 2011 helped mitigate damage. Personnel from the U.S. Army Corps of Engineers were assessing the effectiveness of these measures, which included trenches and relief wells. The Corps of Engineers conducted daily inspections of levees for seepage and other problems.

NEW MADRID COUNTY --- 1.9 SSE NEW MADRID [36.58, -89.51], 5.5 SE NEW MADRID [36.54, -89.46], 8.8 SE NEW MADRID [36.52, -89.41], 6.1 ESE NEW MADRID [36.57, -89.43]

07/02/15 08:00 CST	0	Flood (due to Heavy Rain)
07/26/15 18:00 CST	0.30M	Source: River/Stream Gage

Minor flooding occurred along the Mississippi River. Mainly agricultural bottomland and surrounding low-lying areas were flooded.

Major flooding continued on parts of the Mississippi River. The active June weather pattern continued through July, bringing fronts that moved in and near the region's river basins. After having its wettest June on record, the state of Illinois experienced a very wet July.

BUTLER COUNTY --- 0.5 S POPLAR BLUFF [36.74, -90.40], 1.0 S POPLAR BLUFF [36.74, -90.40]

07/03/15 19:00 CST	0	Funnel Cloud
07/03/15 19:15 CST	0	Source: Law Enforcement

A funnel cloud was photographed over the southern city limits of Poplar Bluff. Law enforcement personnel visually monitored the progress of the funnel cloud. The parent rain shower producing this funnel cloud moved southward at only 5 mph. No lightning was associated with this weather feature.

A funnel cloud was observed over the Poplar Bluff area. This type of funnel cloud was likely the formative stage of a landspout. Landspouts occur when extremely buoyant air is lifted and rotates near the base of a rain shower of thunderstorm. Most landspouts do little damage. The parent shower occurred along a very slow-moving cold front that extended from northwest Arkansas to the Lower Ohio Valley.

CAPE GIRARDEAU COUNTY --- 4.0 NW CAPE GIRARDEAU [37.34, -89.58]

07/08/15 19:25 CST	5K	Thunderstorm Wind (EG 56 kt)
07/08/15 19:25 CST	0	Source: Trained Spotter

Several trees were blown down.

SCOTT COUNTY --- 1.5 ESE KELSO [37.17, -89.52], 2.2 ESE ILLMO [37.21, -89.46]

07/08/15 19:35 CST	60K	Tornado (EF1, L: 4.17 mi, W: 125 yd)
07/08/15 19:44 CST	10K	Source: NWS Storm Survey

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<p>Numerous trees were uprooted or snapped off. Several outbuildings were destroyed, including a large shed. Three camper trailers were overturned. One of the campers sustained major damage. There was shingle and siding damage to a few homes. There was clearly a well-defined convergent path through a corn field. Peak winds were estimated near 95 mph. The path continued across the Mississippi River into Alexander County, Illinois.</p>				

Isolated severe thunderstorms developed ahead of a migratory surface low over central Missouri. In the wake of early-day showers departing the Lower Ohio Valley, pockets of sunshine resulted in modest air mass destabilization. Boundary layer dew points in the 70's contributed to storm development. Notable strengthening of the 850 to 700 mb wind field was sufficient for isolated supercells, including a tornadic supercell over Scott County.

CARTER COUNTY --- 1.0 N HUNTER [36.89, -90.85]

07/09/15 16:05 CST	1K	Thunderstorm Wind (EG 52 kt)
07/09/15 16:05 CST	0	Source: Emergency Manager

A large live oak tree was blown down on Highway 21.

SCOTT COUNTY --- SCOTT CITY [37.25, -89.52], ILLMO [37.22, -89.50]

07/09/15 17:30 CST	35K	Thunderstorm Wind (EG 65 kt)
07/09/15 17:32 CST	0	Source: NWS Storm Survey

Numerous trees and tree limbs were blown down throughout most of Scott City except for the western part near Interstate 55. Some of the large limbs and branches were from healthy trees. The whole trees that blew down were diseased or rotten. Two trees fell on one home, causing major damage to the house. One tree fell on a car. Power lines were down, and streets were closed. The damage was caused by a microburst with peak winds estimated near 75 mph. The width of the damage area was about one-half mile. The length of the damage path was about 1.6 miles.

A cluster of strong to locally severe thunderstorms progressed eastward across southeast Missouri. A bowing line segment was responsible for extensive wind damage in Scott City, close to the Mississippi River. The activity was focused along a composite warm front/outflow boundary that extended eastward into southern Illinois. Sufficient solar heating and dew points in the mid 70's yielded moderate to strong instability. Modestly enhanced mid-level flow around 30 to 35 knots was sufficient for organized bowing storm structures, which produced isolated wind damage.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/13/15 12:00 CST	0	Heat
07/13/15 17:00 CST	0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices around 105 degrees. Observed peak heat index readings at the bigger cities included 108 at Cape Girardeau, Poplar Bluff, and Doniphan. Hot southwest winds preceded a cold front that extended from the Upper Mississippi Valley to the central Plains.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/14/15 11:00 CST	0	Heat
07/14/15 16:00 CST	0	

Afternoon temperatures in the lower to mid 90's combined with oppressive humidity levels to create heat indices from 105 to 110 degrees. Peak heat indices at selected cities included 105 at Cape Girardeau and 109 at Poplar Bluff and Doniphan. Hot and humid southwest winds prevailed ahead of a cold front over central Missouri.

RIPLEY COUNTY --- 3.0 SW GATEWOOD [36.55, -91.14]

07/14/15 13:00 CST	4K	Thunderstorm Wind (EG 56 kt)
07/14/15 13:00 CST	0	Source: Park/Forest Service

National Forest Service personnel reported several trees were blown down.

A cluster of thunderstorms tracked southeast from western Missouri, passing over the Ozark foothills of southeast Missouri. Isolated damaging winds occurred along the leading edge of the storms. Strong heating ahead of the storms, combined with tropical humidity, yielded very strong instability. The storms occurred ahead of the trailing end of a cold front that extended southwest from low pressure over the Great Lakes.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/19/15 12:00 CST	0	Heat
07/19/15 18:00 CST	0	

Storm Data and Unusual Weather Phenomena - July 2015

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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Oppressive heat and humidity occurred in advance of a cold front over central Missouri. Afternoon temperatures in the mid 90's, combined with oppressive humidity, produced heat index values from 105 to 110 degrees. The peak heat index was 106 at both Poplar Bluff and Cape Girardeau.

SCOTT COUNTY --- 1.3 WNW SIKESTON [36.89, -89.60]

07/20/15 01:45 CST	0	Heavy Rain
07/20/15 05:00 CST	0	Source: Mesonet

A rainfall total of 2.58 inches was measured within three hours.

A mesoscale convective system with heavy rainfall moved southeast along an old convective outflow boundary. The storms were aided by a weak 500 mb shortwave trough moving east from the central Plains.

CAPE GIRARDEAU COUNTY --- FRUITLAND [37.45, -89.65], 1.0 S FRUITLAND [37.44, -89.65]

07/20/15 18:04 CST	0	Funnel Cloud
07/20/15 18:15 CST	0	Source: Trained Spotter

A funnel cloud was observed by a trained spotter along Interstate 55 just south of Fruitland.

BOLLINGER COUNTY --- ZALMA [37.15, -90.08]

07/20/15 18:10 CST	0	Funnel Cloud
07/20/15 18:10 CST	0	Source: Emergency Manager

BUTLER COUNTY --- POPLAR BLUFF [36.75, -90.40], 1.0 SW POPLAR BLUFF [36.74, -90.41]

07/20/15 19:55 CST	3K	Thunderstorm Wind (EG 52 kt)
07/20/15 19:55 CST	0	Source: Trained Spotter

Power lines were down at two intersections, including one on Business Loop 67. On the southwest side of Poplar Bluff, small tree limbs were broken and tree debris was scattered across the area. A tree was split in half.

Clusters of thunderstorms with torrential rain and isolated damaging winds moved east-southeast across southeast Missouri. The storms were focused along a stationary outflow boundary extending from southern Missouri into the Tennessee Valley. The storms were enhanced by an upper-level disturbance that tracked east-southeast from the St. Louis area to southwest Indiana. Precipitable water values were around two inches. Heating of the very moist air mass resulted in strong instability, with mixed-layer capes over 2500 j/kg in the afternoon.

STODDARD COUNTY --- DEXTER [36.80, -89.95], BERNIE [36.68, -89.97]

07/22/15 16:05 CST	0	Heavy Rain
07/22/15 16:50 CST	0	Source: Trained Spotter

A trained spotter in Bernie reported 1.3 inches within 40 minutes. Just southwest of Dexter, 0.9 inch fell in 25 minutes.

A cluster of thunderstorms moved slowly east along a warm front that extended from the southern Plains to the southeast corner of Missouri. The storms contained heavy rainfall rates over an inch per hour.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/25/15 12:00 CST	0	Heat
07/25/15 18:00 CST	0	

Afternoon temperatures in the lower 90's combined with high humidity produced heat index values in the 105 to 110 degree range. The peak heat index was 106 at Cape Girardeau and 108 at Poplar Bluff. An eastward extension of an upper-level high over the southern Plains brought the hot and humid weather.

(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/27/15 12:00 CST	0	Excessive Heat
07/29/15 17:00 CST	0	

Heat indices topped 110 degrees for three consecutive afternoons. The peak heat index during the three-day period was 112 degrees at Cape Girardeau and 111 at Poplar Bluff. A 500 mb high over the southern Plains built slowly east and northeast into the Mid-Mississippi Valley. At the surface, weak high pressure over the Tennessee Valley produced a persistent southwest wind flow.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
BOLLINGER COUNTY --- MARBLE HILL [37.30, -89.97]				
	07/27/15 16:15 CST		0	Heavy Rain
	07/27/15 17:30 CST		0	Source: Emergency Manager
Two inches of rain in under an hour produced some street flooding.				
CAPE GIRARDEAU COUNTY --- JACKSON [37.38, -89.67], CAPE GIRARDEAU [37.30, -89.53]				
	07/27/15 17:09 CST		3K	Thunderstorm Wind (EG 56 kt)
	07/27/15 17:20 CST		0	Source: Broadcast Media
A large tree was blown across a road in the northeast part of the city of Cape Girardeau. In Jackson, a tree was blown down onto a house.				
STODDARD COUNTY --- ADVANCE [37.10, -89.92]				
	07/27/15 17:58 CST		15K	Thunderstorm Wind (EG 61 kt)
	07/27/15 17:58 CST		0	Source: Broadcast Media
Multiple trees were blown down, and a camper was flipped.				
Scattered thunderstorms developed during the heat of the day along a stationary front that extended from southern Missouri east-northeast along the Lower Ohio Valley. The lower levels were very moist, with surface dew points in the middle to upper 70's. Torrential rain and a few damaging wet microbursts occurred in the strongest storms.				